

MARKING SCHEME-CLASS IX-ASS-1-2022
SET-2 BIOLOGY

SECTION A		
Sl. No.		MKS
1	(a) DNA polymorphism	1
2	(b) Flower colour of snap dragon	1
3	(b) Controls several phenotypes	1
4	(a) UAA	1
5	b) Sertoli cell	1
6	a) The flower type which survived is Cleistogamous and it always exhibits autogamy..	1
7	b) Both A and R are true and R is not the correct explanation of A	1
8	a) Both A and R are true and R is the correct explanation of A	1
9	a) 3-3-2	1
10	b) Expressed Sequence Tags	1
SECTION B		
11	A- antigen binding site B- light C- heavy chemical nature-Protein OR Thymus-primary Spleen- secondary+ any 1 reason for each one	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}+\frac{1}{2}$
12	pollen pistil interaction-definition dynamic process +important to the plant breeders.	1 1
13	Flow chart showing sex determination or explanation	1+1
14	i)codon -triplet of nucleotides +its sequence determines the order of the amino acids in the polypeptide. ii) anticodon of AUG -UAC + cognate amino acid-Met	$\frac{1}{2}+\frac{1}{2}$ $\frac{1}{2}+\frac{1}{2}$
15	brief explanation of importance of apomixis in hybrid seed industry	1+1
16	Alfred Hershey and Martha Chase experiment	1+1
17	i)central dogma ii) 6	1 1
SECTION C		
18	i)contact inhibition lost + detected- name any two method	$\frac{1}{2}+1$

	ii) metastasis -spreading to other organs iii)interferons – Biological response modifiers	½+1
19	i)Incubation period in the liver cells+ when RBCs rupture hemozoin released causes chills and fever. ii)Plasmodium falciparum iii) flow chart in female anopheles OR i)Protein ii)enzyme-reverse transcriptase +molecule X-Viral DNA iii) host cells-Macrophages+ other cells-Helper T cells iv)ELISA	1 ½ 1.5 ½ 1 ½+1/2 1/2
20	labelled diagram with 6 markings of a human sperm. OR female reproductive system with 6 markings	1/2x6
21	i)any 3 advantages. ii)True fruits, False Fruits and parthenocarpic fruits.	1.5 1.5
22	i)Name-DNA printing + principle ii) steps of the technique.	½+1/2 2
23	i)Sex linked recessive disease+ cause-single protein from a cascade of protein required for clotting is absent. ii) unaffected carrier female to the male progeny iii)for the females to be affected males should be diseased and female need to be carriers, males not available later in life. iv) genotype of the 3 rd -XY+ 4 th -X ^h X	½+1/2 ½ 1 ½+1/2
24	i) flow chart +observations ii)conclusion	1+1 1
SECTION D (CASE STUDY)		
25	i)Downs Syndrome ii)addition copy of the 21 st chromosome. iii)any two symptoms iv) Chromosomal disorder+ addition of a chromosome. v)Turners Syndrome – monosomy + Downs Syndrome-trisomy	1 1 1 1 1
26	i)- c) These cells start meiotic division and get temporarily arrested at the end of meiosis-I stage ii)- c) Tertiary follicle iii) -c) zona pellucida iv) d) A is False but R is true v)- b) Ovum, Corpus luteum	
SECTION E		

27	(a) i gene (regulatory gene) + Three structural gene z,y,a	1
	(b) labelled illustration of lac operon in a 'switched on' state.	3
	(c) role of lactose - inducer	1
OR		
	a) anyone difference	1
	b) split gene arrangement + forming peptide bond	2
	c) Draw a schematic representation	2
28.	a) two barriers acids in the stomach +mucus lining	1
	b) common cold and pneumonia: causative organism-Rhino virus+ Streptococcus pneumoniaea	1
	i) target organ- respiratory track+ lungs	1
	ii)Any two symptoms	2
	OR	
	a) Colostrum -Passive immunity and typhoid vaccine- Active immunity any one difference	1+1
	b) Wuchereria bancrofti/ W. malayi + any two diagnostic symptoms.	1.5
	c)latex of poppy plant +depressant and slows down body functions	1.5
29.	a) any two features of Mendelian disorders.	1
	b) Both parents unaffected carriers	1
	c) Explain how the genetic cause of both the diseases are different from each other.	1.5+1.5
OR		
	a) Seed shape-complete dominance+ size of starch grains stored in seed-incomplete dominance- cross	3
	b) What is chromosomal theory of inheritance and who put forth this theory.	2